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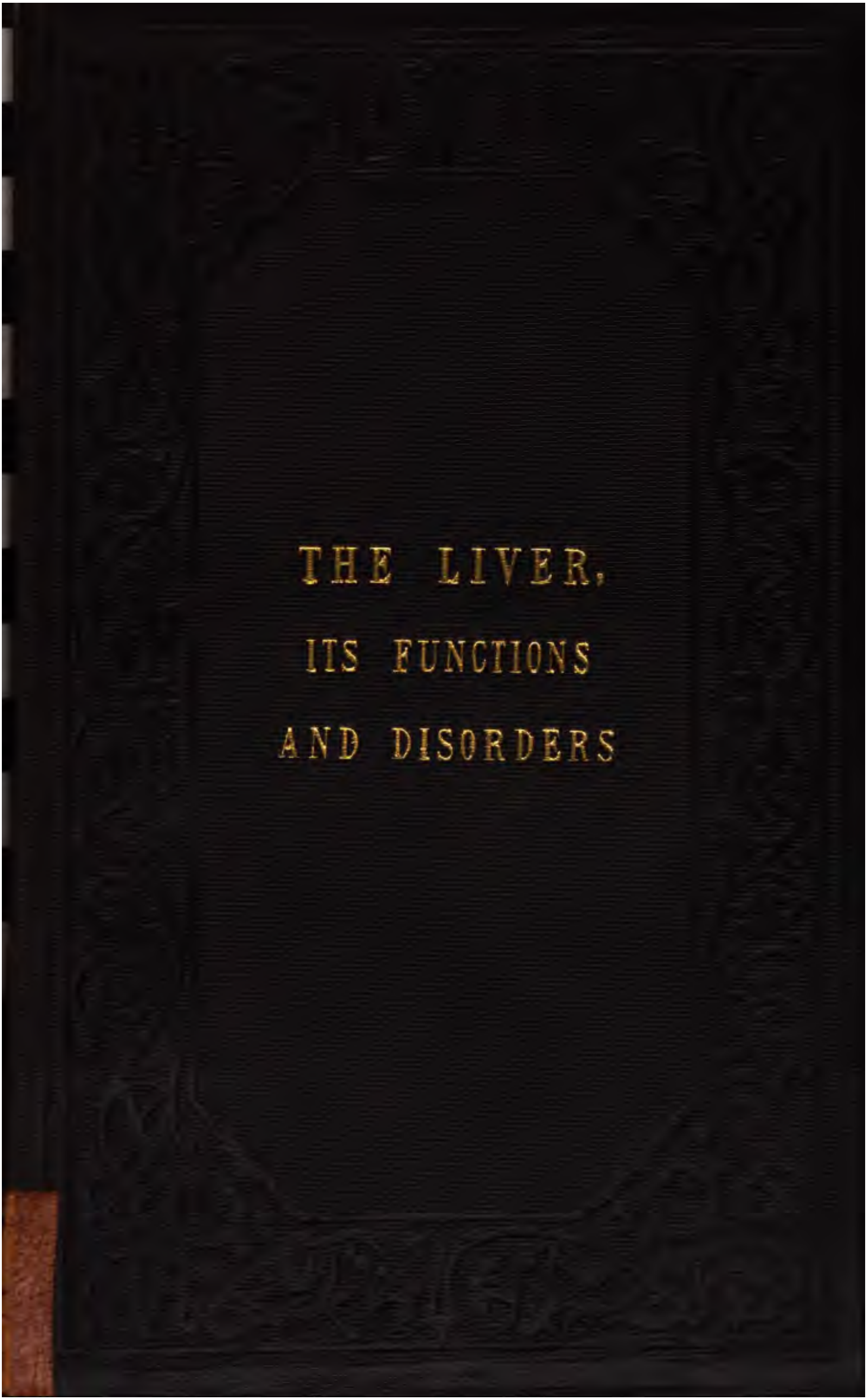

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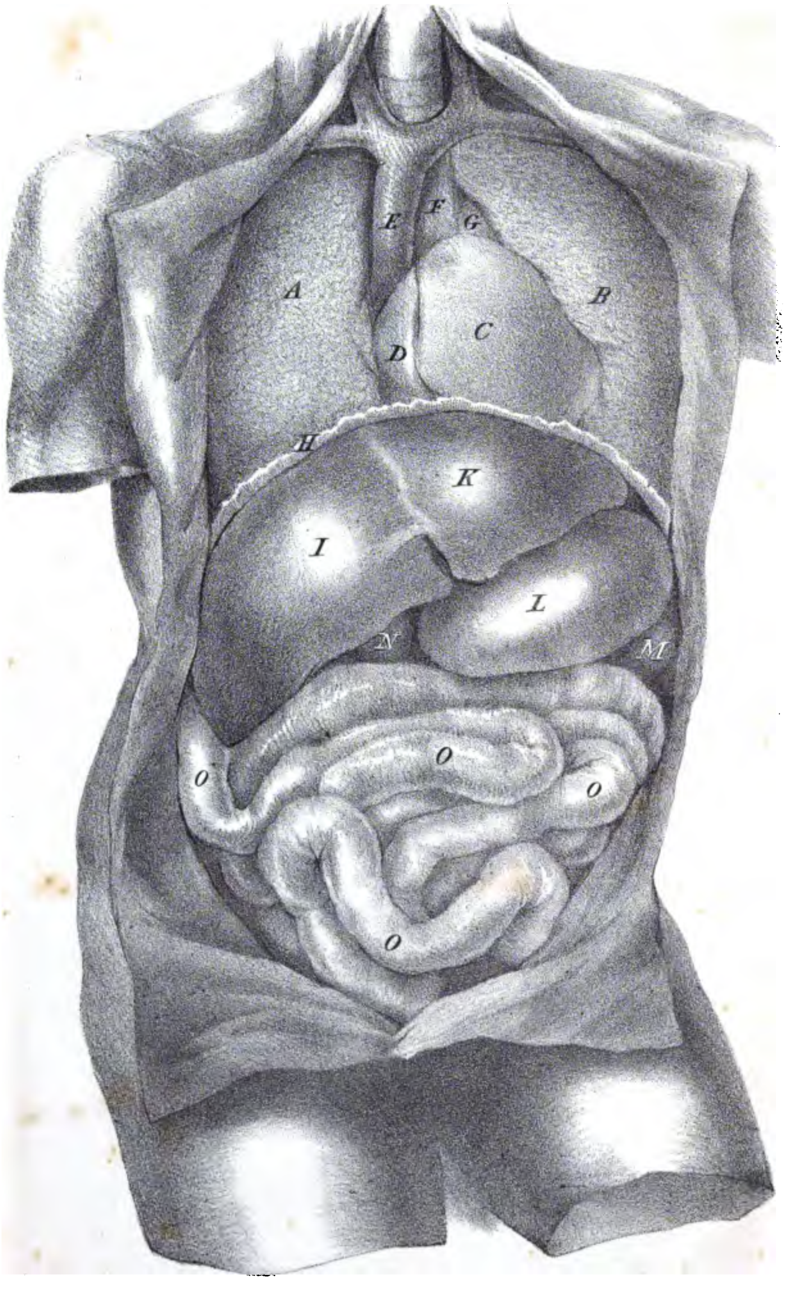
Plate 1.

View of the Liver and other organs of the body in their natural position.



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PREFACE TO THE FIRST EDITION.

THE bills of mortality evince that the diseases of this country are principally of the lungs and air-passages; whereas the diseases of a hot climate, upon data equally correct, are known to be those more particularly of the liver, stomach, and bowels. I claim, therefore, for my opinion on the latter diseases, all the weight arising out of more than twenty years' experience of their treatment in India, and the devotion of nearly ten years of my time to their study since my return to this country. The consciousness of which, I hope, now justifies me in giving my opinion on these diseases with some degree of confidence; with a conviction of their truth I impart them at all events. Let it, however, be distinctly understood, that it is my wish rather to appeal to my reader's judgment and common-sense in the matter before us, than obtrude upon him the weight of my convictions and experience. With this view I shall do my best to strip the subject of all its obscurity, and explain it as fully and in as simple language as it will admit of. Desiring that what I advance may be accorded and accepted by him no further than it carries with it the impress of truth, and conviction to his own mind, as the only legitimate claim it can have to his respect. It is a mistake to suppose that there is anything in medical science that may not be comprehended by any person of ordinary capacity, when divested of its technicality and submitted to him in its native simplicity,—which it will be my endeavour, in the subject before us to accomplish, and illustrate with a plate.

Mankind, it is said, are all in pursuit of happiness, and yet, strange to say, although health alone can give value to existence, they all appear to disregard any knowledge concerning this essential element of happiness—the power of enjoyment. And thus half the world go on, suffering and repining under some unknown malady, which they are perhaps contented to hear called dyspeptic or nervous; taking a dose of physic to-day, and repairing to the doctor to-morrow; and what is simply functional disturbance in the first instance, is allowed to progress unheeded, until it has insidiously developed structural disease and some incurable malady. And thus for the want of a little timely knowledge, and the employment of effective means of cure, half mankind are contented to sink into the condition of confirmed invalids and an untimely grave, who otherwise might have readily been restored to health, and thus, have enjoyed the blessing of a more lengthened and happy existence.

PREFACE TO THE SECOND EDITION.

THE object I held in view in submitting this work to the Press in June of last year, was, to impart, as concisely as the subject would well admit of, a general knowledge of the functions of the Liver in the economy of man; to point out its importance to health, and its relationship to a multitude of disorders, with respect to which it constituted the chief, but in general unobserved, or insufficiently appreciated, element; and in consequence of which, the treatment of these disorders was as unsuccessful, as it was in general, inappropriate.

The demand that now exists for a Second Edition leads me to hope that my endeavours have been appreciated. Had the time necessary been at my disposal, I might have added to the subject, but seeing that it is otherwise, I have directed a Second Edition to be published without alteration of any kind, as I have nothing of importance to amend, though I might with advantage have added to the subject.

C. S.

London, March 1, 1852.

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There are a great many respectable persons, suffering under the complaints treated of in this work, whose means are too limited to allow of their paying for professional assistance, but who not unfrequently most urgently require it. To all such persons, Dr. Searle begs leave encouragingly to say —come to him any morning between the hours of ten and twelve o'clock, Saturdays and Sundays excepted, and they shall welcomely have his best services, without fee or reward, for the pleasure alone he will experience in rendering himself useful to them.

14 A, *Weymouth Street,*
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EXPLANATION OF THE PLATES.

EXPLANATION OF PLATE I.

A. B.—The right and left Lungs, occupying, with the Heart and the principal blood-vessels, the whole cavity of the chest.

C.—The Heart enveloped in its bag or covering called pericardium, and supported by the diaphram.

D.—The right Auricle, an appendage to the Heart, which receives the Blood from the veins for distribution to the Lungs.

E.—Superior Vena Cava, or main trunk of the veins from the Head and upper part of the body, bringing blood to the Auricle.

F.—Arch of the Aorta, or main trunk of the Arteries, through which the Heart by its contraction propels the Blood it receives into it from the Lungs to every part of the body.

G.—Pulmonary Artery, conveying the venous Blood to the Lungs for aeration.

H.—Diaphram or Midriff, a fibrous muscular expansion, which separates the Chest from the cavity of the Abdomen.

I. K.—The Liver separated by the cleft in front into two lobes. It occupies the central regions of the body, the right side, however, more particularly, extending from the Spine and Kidney behind, beneath the Midriff, to which it is suspended, above the Bowels, under the margin of the Ribs in front and across the pit of the Stomach towards the left side, covering in its progress nearly half of the Stomach, which is continued in the same line with it under the margin of the Ribs.

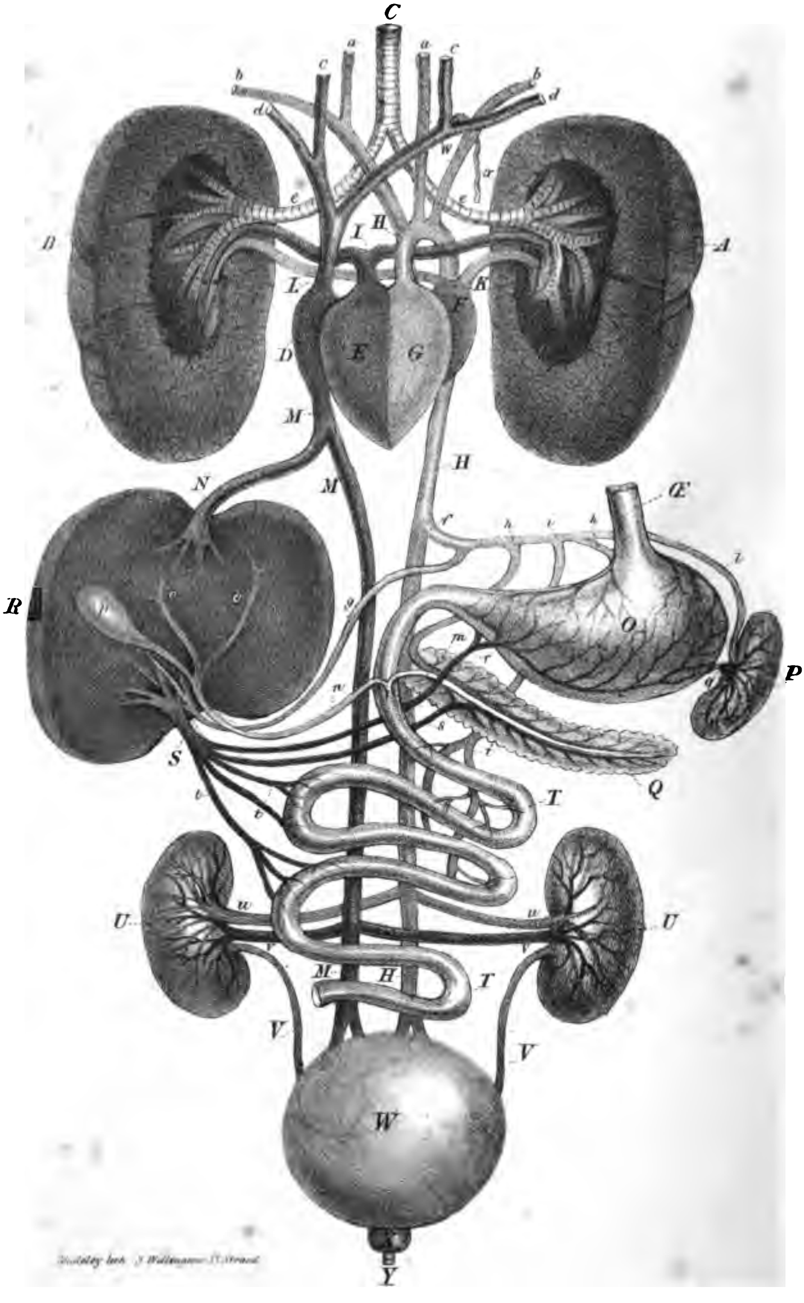
L.—The convex lower surface of the Stomach, tapering from left to right.

M.—The Spleen attached to the left end of the Stomach.

N.—The bottom or closed end of the Gall-bladder, seen below the margin of the right lobe of the Liver.

O. O. O.—Convolutions of the Intestines of

Diagram showing the mode of the bloods circulation through the Liver. and the principal relations of that organ to the other organs of the human body, & of the circulation in general



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EXPLANATION OF PLATE II.

A. *B*.—The right and left Lungs, which are of light spongy structure, made up of air-tubes and blood-vessels, for the purpose of bringing the air inspired into contact with the blood; by which the dark coloured venous blood brought to the lungs, is, by the dissipation and exchange of the carbonic-acid-gas it contains, for its equivalent of oxygen gas, converted into arterial blood of a bright colour; or blood redolent of life and heat, which is returned to the heart for circulation to the system at large.

C.—Windpipe dividing into bronchi or air-tubes for the passage of air to the Lungs.

D.—Right Auricle—an appendage to the Heart for the reception of the venous blood while the Ventricle contracts.

E.—Right Ventricle of the Heart, which receives the blood into its central cavity from the Auricle, and propels by its contraction the blood through the Lungs for re-vivification.

F.—Left Auricle, for the reception of the arterial or revitalized blood from the Lungs.

G.—Left Ventricle—which propels the blood it receives from the Auricle through the Aorta to the system in general.

H. H. H.—Aorta, or main trunk of the Arteries, which, subdividing into innumerable branches, carries the vitalized blood from the Lungs to every part of the body.

I.—Pulmonary Arteries, conveying venous blood to the Lungs.

K.—Pulmonary veins—returning arterialized or revivified blood to the Heart for general circulation

L.—Superior Vena Cava, or main trunk of the Veins from the upper parts of the body, bringing the blood to the Auricle, and thence to the Lungs for revivification.

M. M.—Inferior Vena Cava, or main trunk of the Veins from the lower parts of the body.

N.—Hepatic or great vein of the Liver, returning the purified venous blood to the general current for transmission to the Lungs.

O.—Stomach or membranous receptacle of food and beverage.

Œ.—Gullett, or tube opening into the Stomach connected with the mouth, for the passage of the food and beverage.

P.—Spleen—a spongy organ, attached to the left extremity of the Stomach, largely supplied with blood, on which it is supposed to have some assimilating or transforming influence.

Q.—Pancreas or Sweetbread—with its central duct for the passage of its secretion into the intestines.

R.—Liver—its inferior or concave surface, with its blood-vessels, gall-bladder and biliary ducts.

S.—The Portal Vein—formed by the junction of the Veins *q. r. s. t. t.* which bring the blood and nutritive juices from the digestive organs to the Liver, for assimilation and purification, or separation of it from the bile, which is conveyed by the tubes *o. o.* to the gall-bladder, and by the tube *n* to the intestines.

T. T.—Intestines or Bowels, as their entire length is about twenty-seven feet, a part only is here shown in connection with the Stomach, and receiving the secretions of the Liver and Pancreas; and in display of the blood-vessels which absorb the nutritive juices passing from the stomach along their surface.

U. U.—Kidneys—with the arteries *u. u.* bringing blood to them for purification or separation from it of the urinary secretion, and *v. v.* veins returning the purified blood to the general current.

V. V.—Ureters or ducts conveying the urine as secreted into the bladder.

W.—Urinary Bladder—penetrated from behind by the ureters.

X.—Prostate Gland—surrounding the neck of the bladder and urethra.

Y.—Part of the Urethra—or duct of exit for the passage of the urine.

a. a.—Carotid Arteries—through which the blood is transmitted to the brain.

b. b.—Subclavian Arteries—through which the blood is transmitted to the chest and arms.

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d. d.—Subclavian Veins—through which the blood returns from the arms and chest.

e. e—Bronchi or principal divisions of the wind-pipe, or air-tubes proceeding to the Lungs.

f.—Cæliac Artery—or main trunk of arteries to the digestive organs.

g.—Hepatic Artery—for supply of arterial blood to nourish the Liver.

h. i. k. l.—Arteries to the Stomach, Bowels, Spleen, and Pancreas.

m.—Pancreatic Duct—or tube conveying the secretion of the Pancreas into the Bowels.

n.—Biliary Duct—conveying the bile from the Gall-bladder and Liver into the intestines.

o. o.—Biliary Ducts—emerging from the Liver, and conveying the bile, as it becomes secreted, into the gall-bladder and intestines.

p.—Gall bladder—a receptacle for the bile when not required by the process of digestion.

q. r. s. t. t.—The Veins from the Spleen, Stomach, Pancreas, and Bowels, which unite to form the portal-vein and bring the blood, and nutritive juices absorbed from the Stomach and Bowels, to the Liver for purification.

u. u.—Renal Arteries—conveying blood from the aorta to the kidnies for purification.

v. v.—Renal Veins—returning the purified blood to the general current.

w.—Opening of the Thoracic Duct into the left jugular vein, by which the chyle and fluids absorbed from the Stomach and Bowels, and system in general, are poured into the blood.

x.—Thoracic Duct—or main trunk of the general system of absorbent vessels.

INTRODUCTION.

THE liver, which forms the subject of the following pages, is the largest organ of the body ; its importance in the animal economy is best attested by the fact—that there is scarcely an animal in the creation, however low in the scale of existence, that is without a liver in some form. And, secondly, in the human species in early fœtal life, it constitutes no less than half the weight of the entire body ; gradually, however, becoming proportionably less, by the expansion of the other parts, till birth, when it is reduced to one eighteenth part of the child's weight. Its weight, however, although it remains through life the largest organ of the body, and weighs in the adult from fifty to sixty ounces, gives but a very inadequate conception of its magnitude and importance in the economy : to judge of either, we must, by the aid of the microscope, look into its structural formation and endowments as a secreting organ ; but of these I shall speak in due time, when I explain its offices—both as a safety-valve to the circulating system, and of its being the great purifying organ of the body ; and to these I may add—the general focus of disease.

Those, however, who desire to be informed on these matters—to have their understanding enlightened regarding them, must adopt the means, and give the following pages that amount of attention which the subject requires. And, if in pursuit of health, they may be assured that their time and intellect cannot be more profitably employed. For of what value, may I ask, is life to any man without health ? It is but the mere shadow of the substance of that pearl of great price—the casket without the jewel ! But with health, the whole world is open to man's enjoyment. Seek it therefore, I admonish you, whilst it is to be found, and be not content with any thing short of the entire possession, as it is of all blessings that which is the most to be coveted. And with a desire to lead you in the right path to its attainment, I have faithfully laboured in the following treatise.

C. S.

No. 14, *Weymouth Street,*
Portland Place, London.
June 28, 1851.

CHAP. I.

Of the Blood in relation to Life and Health; and of its purification by the Liver.

Life, without entering into any refinement of detail, may be said to be the sum total or final result of the action of the heart and of the several organs of which the body is composed. And *health*, which may be defined, the normal or natural condition of life, may in like manner be said to be the sum of those actions, operating in the proper degree, or rightly performed, and in harmony with each other.

To the action of the heart and the various other organs, in fulfilment of the respective functions of each—whether it be of the stomach in the digestion of food—of the heart in the circulation of the blood—of the liver and kidneys in its purification—of the lungs in the blood's aeration—or of the brain in mental operation or in the distribution of the nervous power—the primary element required, the actuating power of the whole, is the blood—the pabulum or fountain-stream of life. And hence the fact, that the vital organs, or those most essential to life, are all concerned in some way in the formation, circulation, purification, and endowments of the blood—the fons et origo vitæ.

Pure and well constituted blood, is obviously, therefore, the primary element of health—its basis or chief requirement. And as the liver is the principal purifying organ of the blood, and has also much to do with its constitution or the assimilation and conversion of food into blood,—the multitude of diseases and derangements of health, which necessarily flow out of, or are associated with, disorder of the liver or the imperfect performance of its functions, will be apparent to all, who will give the subject due consideration. There are other circumstances too, which we shall notice hereafter, connected with the peculiarities of the blood's circulation in the liver, of equal consequence, which will render the importance of the liver still more conspicuous; and its proneness to disorder not less so.

But to return to the blood—*the fountain stream of life*—the source of all power, of the body's temperature, and of the nutrition of the system, it may be necessary to remark—that in the course of its circulation through the body, it imparts in its progress, heat, vitality, and nourishment to all the organs and the system at large—and in so doing it loses, or becomes deprived of, these, its nourishing and vitalizing qualities. And furthermore, the blood becomes altered and deteriorated in quality—not only by the absorption and reception into it of the old, worn out and effete particles of the system, but by chemical and other changes which take place in its composition. And hence it requires, not only the renovation of new materials, but purification also from the old, effete, and pernicious elements ; and this function of purification, it is the office of the liver and kidneys to fulfil. Of the liver, however, it is more particularly the office, though we shall in due time speak of that of the kidneys likewise ; but, as the function of the latter organs is incomparably more simple than that of the liver, so are the kidneys proportionably less liable to disease.

The liver, however, is so intimately associated with the stomach and bowels, in all its relations—both structural and functional, that it is indispensable my reader should first have a clear conception of the function of the latter organs in digestion and assimilation or the processes by which food is converted into blood, and afterwards of the circulation of the blood, by which it is distributed over the system, and brought to the liver for purification,—before he can comprehend the nature of the various diseases arising out of its disorder.

I must here entreat my reader's patience whilst on these subjects, relating as I do particulars which at this moment he cannot appreciate, and may therefore consider foreign to the matter under consideration ; but a little patience and attention will amply repay the time, by putting him in possession of all the facts of the case, and thereby enable him to see clearly, judge correctly, and comprehend fully, how such a multitude of disorders, as those I am about to enumerate, may date their origin, or become progressively developed, by disease first existing in the liver.

CHAP. II.

Of the Digestive and Assimilative Processes, and others concerned in the Formation and Renovation of the Blood.

THE food masticated by the teeth, and mixed with the air and saliva of the mouth, which are essential to its perfect assimilation, is, when swallowed, brought into contact with the mucous or inner coat of the stomach, from which a fluid, the gastric juice, is secreted. This gastric fluid is secreted or separated from the blood circulating in the vessels distributed over its interior lining or mucous coat, and is constantly poured into its cavity so long as there is food in the stomach to excite its secretion. The gastric secretion is of an acidulous character, and has not only the power of dissolving the food, but of preserving it also from putrescency. The digested food, now in a half-fluid state, passes onwards, it being compressed by the contraction of the stomach (*O*)* upon its contents, through the pylorus or opening from it into the intestines or bowels (*T*), in which, about four inches down, it becomes mixed with the bile and pancreatic fluid. These fluids are here poured into the intestines through one common duct or tube of the size of a goose-quill, which is formed by the junction of the biliary (*n*) and pancreatic ducts (*m*), or those which come from the liver and pancreas, and unite at this point. The pancreas, or sweetbread (*Q*), secretes a fluid very similar to the saliva of the mouth, which renders the alimentary matter more fluid, and therefore better adapted for absorption. And the same may be said of the bile, which is here likewise mixed with it. As living animal fluids, these secretions assimilate also, or give vital qualities to the aliment, preparatory to its absorption and reception into the blood.

The intestines, which from the stomach to their external aperture are about 27 feet in length, have an undulating contractile motion, called peristaltic or vermicular, which progressively moves the semi-fluid digested alimentary substance, now called chyme, onwards along their surface. The more fluid part of the chyme, as it advances along the bowels, becomes now absorbed or imbibed by the veins of these organs (*t*), which are divided for this purpose into an infinitude of small vessels covering their whole surface. Absorption of fluids from the stomach is in like manner effected by the veins of that organ also (*r*). The residual, unabsorbed, and more solid parts of the food, in combination with the colouring and excrementitious constituents of the bile, progressively move onwards, and consolidate in the lower bowels or large intestines; from which, when the accumulation becomes inconvenient, the contraction of muscles is excited and occasions it to be expelled.

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* The letters thus introduced between brackets refer to the same letters in Plate 2.

In addition to the veins of the stomach and bowels, there is another set of vessels, of which I shall speak hereafter, called lacteals, from the milk-like fluid they usually contain, which also absorb fluids from the bowels; but the experiments of Majendie unequivocally prove, that the veins are the principal imbibing vessels.

Returning to the nutritive juices, the veins of the bowels and stomach have imbibed, these veins, in conjunction with others coming from the spleen (*q*) and pancreas (*s*), unite into one trunk, called the portal vein (*S*). This vein brings the blood, with the nutritive juices it has acquired from the stomach and bowels, to the liver (*R*), and now entering its substance, subdivides into innumerable branches spread over its secreting tubes. These tubes have the power, by the agency of the nerves which accompany the blood-vessels in all their divisions and furnish them with electrical or nervous power, of separating the bile from the blood. The blood is thus purified from, or divested of, its old, effete, and worn out particles—as constituents of the bile, as well as from any pernicious new matter it may have imbibed from the stomach and bowels. The new and purified juices acquired from the stomach and bowels, at the same time become in this process further elaborated and assimilated into blood.

The bile or gall, thus secreted or separated from the blood in the liver, a greenish yellow alkaline bitter fluid, is now transmitted by the ducts, formed by the junction of the ten thousand times ten thousand secreting tubes, into one common trunk (*n*), which opens into the intestines as I have before pointed out, and into which it is finally conveyed. This bile tube, however, before it passes into the bowels, sends off a lateral branch, which terminates in the gall-bladder (*p*), a small receptacle into which the bile flows, and is retained when the stomach is empty of food. The gall-bladder is further deserving our attention as being the receptacle for gall-stones, which are concretions formed from the bile when it has been long retained in the gall-blader. These concretions, passing from the gall-bladder into the duct or tube (*n*) opening into the bowels, and obstructing the bile in its passage from the liver, occasion the bile to regurgitate or get back into the blood-vessels, and, circulating over the system at large, to produce, that universal yellowness of the skin and of the white of the eyes, called jaundice. The quantity of bile flowing into the intestines, experiment leads us to believe, amounts to from sixteen to twenty ounces daily.

The blood, thus purified in the liver, and renovated with the new elements of nutrition, is still wanting in its heat-producing and animating element oxygen gas, one of the constituents of the atmosphere, which it now imbibes in its passage through the lungs (*A.B*). To these organs, the blood, which is now of dark purple colour, is propelled by the right ventricle of the heart (*E*), to which it is brought by the veins of the liver and others from the system at large, before it is returned to the left side of the heart to be thence circulated through the system in general. In the blood's passage through the lungs, it not only absorbs oxygen, by which it is changed from a purple to a bright scarlet colour, but it also excretes or gives out carbonic acid gas, a product which is formed during the blood's previous circulation through the system. This carbonic acid is formed, by the combination of the oxygen gas the blood has previously imbibed in the lungs, with the carbon, a constituent of the food, it acquires from the stomach. Hence one of the purposes of food, and why so often required, is to supply this carbon, or in other words, charcoal; the consumption of which, as fuel to maintain the ordinary temperature of the body by a process of slow combustion,—for such it really is, is estimated by experiment, to be equal to from eight to twelve ounces per day. And hence the fact, that in summer or in hot climates, man requires less food, and the appetite is proportionately diminished: and the reverse of this is observed in the winter season.

The blood, thus revivified in the lungs, and renovated, in the character of arterial blood, (as the vessels through which it is propelled from the heart, are called arteries), is now circulated to the system at large, warming, vitalizing, and nourishing the whole body. Its circulation is effected by the heart's action: the left ventricle of the heart (*G*), as it becomes distended with the blood flowing into it from the lungs, through the auricle (*F*), suddenly contracts upon its contents, (from seventy to eighty times in a minute—synchronous with the pulse,) and thus propels it through the aorta (*H*), or main trunk of the arteries; through which system of vessels pervading every part, the blood is circulated and distributed all over the system.

CHAP. III.

Peculiarities of the circulation of the Blood in the Liver, by which it becomes the safety-valve of the system, and general centre or focus of Disease; with some provident adaptations of means for the conservation of the System.

HAVING in the previous chapter given an explanation of the digestion of the food and its conversion into chyme; of the absorption of the chyme and nutritive juices from the stomach and bowels; of their purification and that of the blood by the liver, and of their assimilation; of the blood's aeration in the lungs—the source of its temperature and vivification; and lastly, of the blood's circulation to the system in general,—I shall now proceed to point out the great distinguishing peculiarities of the blood's circulation in the liver, or the circumstances by reason of which the liver becomes the safety-valve of the system, as well as the general centre or focus of disease.

The blood, I have stated, is propelled or circulated by the heart through the arteries to all parts of the system, which are thereby nourished, warmed, and vitalized by its presence;

and from which, the blood, now deprived by its circulation, or no longer possessing these properties, is returned to the heart by the veins, which vessels are in continuity with the arteries. Such is the course of the circulation of the blood to the system in general, but it is not so, as I have already shown, with respect to the liver. In this case, the blood, is circulated through the arteries (*h*, *i*, *k*, *l*), to the stomach, bowels, pancreas, and spleen, but instead of returning direct to the heart by the veins (*q*, *r*, *s*, *t*), in connexion with the arteries of these organs, it is, by these veins, after they have united into one trunk the portal vein (*S*), brought to the liver. The portal vein now enters the substance of the liver and subdivides into innumerable branches, finer than the smallest hair, in which the blood is distributed over its secreting tubes, and becomes by their agency purified from the bile and other impure matter it contained. From these fine vessels another set of veins arise, as numerous and fine as the primitive series, which ultimately coalesce into one or more trunks (*N*), and return the purified blood to the heart.

To this supernumerary system of vessels I would now draw attention—observing that, as the heart is the circulating organ of the blood, or centre of motion, that in the liver, in this superadded and secondary system of vessels or those of the portal vein and its tributaries, must the heart's momentum or circulating influence, be less felt than in any other part of the circulating system. And hence, as a consequence, whenever the heart's power is reduced by disorder of the system, or other impeding cause of any kind, must congestive accumulation of blood or plethora of these vessels of the liver, and those of the stomach and bowels their tributaries, in a greater or less degree take place. And correlatively there must ensue, some derangement of the liver's secreting function, with disorder of the stomach and bowels. And subsequently, as a consequence of the blood's being imperfectly purified, a complication of disorders will follow, which this brief exposition will enable me hereafter, I trust, very satisfactorily to explain.

Now, with respect to the secretion of bile and the blood's circulation in the liver, compare these with what takes place in the secretion of urine by the kidneys. In this case, the blood is brought to the kidney direct by an artery, which vessel—after it has been divided into branches, and has distributed the blood over the secreting tubes of the organ and their separation of the urine from it—returns the blood by the veins, in connexion with its ultimate ramifications, direct to the heart. The urine as it becomes secreted, is infiltrated from the tubes into the central cavity of the kidney, and thence by a duct or pipe it flows into the bladder ;

from which, at the convenience of the individual, it is duly expelled. A simplicity of construction and function, which renders the kidney, doubtless, incomparably less liable to disorder and disease than the liver, and when so affected, it is much more frequently as a secondary affection, or one associated with disorder of the liver, than a primary disease.

There is another circumstance of marked interest and of great importance with respect to the circulation in the liver, which I have not yet adverted to, and that is, the character of the blood. We have seen that the blood brought to the kidney for purification, by separation from it of the urine, is of the same character with that circulated to the system at large, namely arterial, or possessing heat-producing and the highest dedegree of vital qualification. But it is not so with respect to the blood sent to the liver for secretion ; this blood, it may be noticed, is that which has previously circulated through the vessels of the stomach and bowels and other organs, and has, like all other blood which has thus become venous, lost its exalted, heat-producing, vital qualities. This is a circumstance peculiar in its character and of the utmost importance, for were it not so, the congestive accumulation of blood which takes place in the liver, to the relief of the rest of the organs and circulation in general, on every occasion of the heart's being reduced in power, would be productive of consequences the most serious. Inflammation would be developed in the part, and destruction of the organization would ensue ; but the blood being venous, here remains often stagnant, or partially so, for a considerable time ; to the relief of which Nature, with her usual conservative wisdom, has provided many expedients. One is an increased secretion of bile under certain circumstances ; a second is, the exudation of the serous or more fluid parts of the blood into the bowels through the ordinary imbibing veins : and thus the watery evacuations in diarrhœa from cold. The blood in this case being repelled from the surface of the body to the interior organs, relief of the distended vessels and much mischief is prevented, by the exudation of the more watery parts of the blood which takes place.

In the above case another beautiful provision of creative wisdom becomes manifest—namely, that as absorption by the veins of the bowels, experiments abundantly show, takes place just in the inverse proportion to their fulness, so will there be, when these vessels are engorged, a proportionate reduction in their capacity for absorption, and no aliment, or but little, will be imbibed ; and the appetite, which appears to me proportionate to this capacity for absorption, will be proportionately reduced. Again, the Hand of creative wisdom becomes still further manifest, when we consider that we are supplied with an additional and supplementary system of absorbent vessels. For were it not so, when the liver is obstructed, or the veins of the stomach and bowels are distended, and absorption through these channels is cut off, we should soon become *dried* to death, seeing that the evaporation and loss of moisture from the skin and lungs amount to more than forty ounces per diem, as well as that thirty ounces of fluid are voided daily by urine. The blood, under these circumstances, would become so acrid, thick, and grumous, that it could no longer be circulated through the finer vessels connecting the arteries with the veins, which from their hair-like size are called capillary. But such a contingency, we see, has been provided for by this supplementary system of vessels, which absorb fluids from the stomach and bowels, and convey them by one united trunk (*x*) immediately into the circulating system through the left jugular vein (*w*).

Having now given a brief explanation of the specialties in the circulation of the liver, and of some other of the phenomena of life, the reader may now readily understand the phenomena of the numerous diseases I am about to illustrate; and unless these are understood, there can be no distinct perception or just appreciation of the requirements of a rational system of treatment. As well might a man attempt to repair a watch or any other complicated piece of machinery, without a knowledge of its structure and defects—as a man attempt to treat a disease, without he has a clear perception of the healthy function of the part and the character of the ailment that is to be remedied.

CHAP. IV

Of the Disorders of the Liver, and associated organs; and of Dyspepsia in particular.

Torpor of the function of the Liver, with defective secretion of bile, is the first and most frequent form of disorder of the liver; and from reasons already advanced, is dependent in all cases, or with few exceptions, upon retarded circulation and congestive accumulation of blood in the organ. And, from the connexion that subsists between the blood-vessels of the liver with those of the stomach and bowels, as well as between their nerves, and the function of these organs,—the disorder of one must necessarily implicate the other also; I shall at once proceed to describe that all-prevailing derangement of health,—that protean disorder—called dyspepsia. I say protean, as it assumes such a variety of aspects, that in no two individuals is it attended with precisely the same symptoms. And why so? For this good and sufficient reason that—although intrinsically the same affection—disorder of the liver, for such is its essential character, the derangement of the stomach being in general secondary and subordinate thereto,—the modifying circumstances under which it takes place are so numerous, in relation to the cause or causes, whether physical or moral, conjoined with constitution, habits, sex, age, idiosyncracy, season of the year, and duration of the affection,—that no two cases can reasonably be expected to appear more alike than the features and persons of any two individuals.

The following constitute the prevailing symptoms of this compound affection, which in individual cases are variously grouped, and occur in a greater or less number, according to the circumstances which give rise to it.

Symptoms of Dyspepsia.—Constipation of the bowels in general, though in some cases the reverse of this condition—relaxation, or diarrhœa takes place; loss of, or depraved, or indifferent appetite; pain or oppression in the region of the stomach, or liver; flatulent distention of the bowels after meals, with acid eructation, or heartburn, or nausea, and occasionally vomiting; a furred, or coated tongue, at its root; a disagreeable taste in the mouth, thirst; a feeling of anxiety or constriction about the region of the heart; cough occasionally, with mucous expectoration, and sometimes oppressed breathing; a sallow dejected countenance, pain in the head, or giddiness; the mind desponding; incapacity to exertion—mental or bodily, the temper at the same time often fretful or suspicious; dryness of the skin, with restless, sleepless, or dreamy nights; the urine scanty, and of dark colour, and often loaded when cold with deposit; or it may be the reverse of this, colourless and abundant; spasms in the region of the stomach and bowels, or cramps in the legs at night; an unusual susceptibility to take cold on slight exposure; a languid circulation, with coldness of the extremities; fleeting gouty, or rheumatic pains; redness of the nose, pimply eruptions on the face, or other parts of the body and occasionally with itching. In addition to this lengthened catalogue of symptoms, there is in some cases a frequent urgent necessity to pass urine, with a sense of scalding in passing it; in others there are piles; or in the female, sense of bearing down, with pain and obstruction, or other derangement of the periodical relief.

Such are the symptoms of dyspepsia—or rather of liver disorder, and the derangements of health it more immediately provokes; and which symptoms in reference to the cause or causes which give rise to them, and circumstances of the case, become variously grouped, and more or less numerous in each particular instance; and further, as they augment in number by duration, they complicate the result, and develope many other disorders—such as dropsy, asthma, disease of the heart, &c.

Causes.—As no effect can take place without a cause, and as a knowledge of its nature will direct us to avoid it, I shall briefly point out those causes the most frequent in operation in the development of the disease. The greater number, it will appear, originate in the social and luxurious habits of the times in which we live. The diet being too rich, or otherwise objectionable in kind, or in excess of the requirements of the system. The too general use of wine and other spirituous beverage and hot drinks. The confined air of our close rooms, and ill-ventilated habitations, to say nothing of the pollutions of the atmosphere, arising from the imperfect drainage of our houses and streets. The malaria from these sources, is not only an abundant focus of disease of a malignant character, as typhus fever and the like, but of many disorders also of a dyspeptic and nervous description. Other causes are, insufficiency of bodily exercise; too much mental employ, anxiety of mind, the depressing passions, and all the heart-burnings of every day life. Excess of sexual indulgence, heat of season, or the reverse of this—cold, under particular conditions of the system, as of plethora or of feebleness. And lastly, all and every cause of debility into which indeed, all those I have enumerated will be found to resolve themselves, or, that is to say, into depreciating and lowering agencies upon the system, by which the heart's power is reduced or depressed below the point compatible with the free and perfect circulation of the blood. An effect which must occasion congestive fulness of the liver, in a greater or less degree, and its consequences—torpor or other derangement of its secretive function, with more or less disorder of the stomach and bowels.

In illustration of the above, I may adduce the instance, of that general sense of debility which is so universally experienced during great heat of season—when liver derangement, with loss of appetite, disorder of the stomach and bowels, cholera morbus, and bilious fevers are so generally prevalent. Hence, also, the character of the diseases of a hot climate. The effect of heat in producing congestion of the liver, is however, absolutely demonstrated to us in the practice pursued in Italy of confining geese in heated apartments, when the liver becomes enormously congested and enlarged for the indulgence of the epicure.

In saying so much of congestion of the liver, it is proper that I should here observe—that it is not necessary the engorgement of the vessels should be to an extent of its producing any obvious enlargement of the organ. I mention this, as I have had occasion to contend with professional opinion on this subject; the patient is examined, and because the organ is not found to descend below the margin of the ribs, or the sound on percussion does not evince any palpable augmentation of its volume, and there is perhaps but little pain expressed on pressure, the conclusion arrived at is, that congestion of the liver does not exist. Now, to my apprehension it is apparent that between the amount of congestion capable of producing this or any sensible enlargement of the organ, and the normal or healthy distention of its blood-vessels, congestion or repletive fulness of the vessels may, and necessarily must exist, in all the intermediate degrees. And, therefore, as no congestive fulness of an organ, however insignificant it may appear, can take place, without its producing a corresponding amount of derangement in its functions—so will congestion and disorder of the liver not only occur, and vary in degree, but, from the peculiarity I have pointed out with reference to the blood's supply and circulation in the organ, it will be more or less of constant occurrence upon every cause of disease or derangement of health. And further, by the disorder of the liver implicating the stomach and bowels, with which the liver is so intimately associated primarily, and the heart and brain secondarily—its disorders assume a greater variety of features or appearances in the character of the symptoms it gives rise to, than occurs with the disease of any other organ.

And now with respect to pain as an index to disease of the liver, I would adduce a few facts illustrative of my belief that the liver itself is wholly or nearly insensible to pain. The pain in the side complained of at any time, I believe, is to be referred to the peritoneal or membranous covering of the liver, which is highly sensitive, becoming implicated in the disease of the organ. I well remember the circumstance of an officer in India, when playing at cricket, springing to catch the ball, fell down faint; he was taken home, and died a few days afterwards, when it was found that an abscess of the liver had burst into the cavity of the abdomen. He had felt a sense of uneasiness in the side, and his system disordered for some considerable time before this event, but not to an extent to induce him to attach any importance to his complaint. Another gentleman, a patient of my own, I remember to have died under the symptoms of fever, in whom, on post-mortem examination, was found four large abscesses of the liver. He had some months before suffered from rheumatism, but had never made any complaint of pain in the side till within a few days of his death, although it was evident that disease of the organ must have long existed. That pain or uneasiness in the region of the liver, I hold at all times a point deserving serious attention; and the absence of pain, I consider, as affording no criterion that disease does not exist.

Analysis of Symptoms.—Reverting to the symptoms of dyspepsia, and of disorder of the liver enumerated, I shall now proceed in a summary way, to explain the operation of disordered liver in occasioning them. The symptoms described are distinctly divisible into two classes. One originating in, and immediately dependent upon, the congestive turgidity of the vessels of the liver, and of the stomach and bowels. And the other resulting from the consequences of this turged condition—the circulation of effete and impure blood to the brain, heart, lungs, and system in general. The congestion of its vessels, and the retardation of the blood's circulation in the liver, necessarily impedes and deranges its assimilative and secretive functions, by which the blood is not only by defect of purification surcharged with biliary and other impurities, but vitiated also in character by defective assimilation. Hence the sallowness of countenance, the dejected spirits, and host of nervous and anomalous symptoms. But before I enter upon these symptoms, I shall briefly trace a few of the most prominent of the first class, and which, from their more immediate connection with the digestive organs, are more characteristically those of dyspepsia.

Constipation.—This is a necessary consequence of defective biliary secretion; in so much, as the bile which ordinarily flows into the bowels, is their natural stimulus or exciter. And hence it is, that when the biliary duct opening into the bowels becomes obstructed with a gall-stone, as is the case in jaundice, when the whites of the eyes become yellow, and the whole countenance is suffused with bile, the bowels are so obstinately costive. And contrariwise, when a grain of calomel is taken, which augments the secretion of bile and its flow into the bowels, two or three bilious evacuations so generally follow. There are other causes of constipation, as for instance, congestive fulness of the blood-vessels of the brain, and defect of nervous excitement of the bowels, but the cause in operation in the present instance, is that of defective biliary secretion, or principally so.

Relaxation of the Bowels, or Diarrhœa.—The first may be the result of irritation imparted to the bowels, by the acrid character of their contents: the food not being digested, or imperfectly so, it ferments and becomes sour and irritating and Nature in this way attempts her own relief by purging. This is a common effect of indigestion succeeding to some excess, or the use of some improper article of diet, sour fruit, or beverage ; and in such cases is often attended with vomiting, preceded by giddiness, flatulent distention of the bowels, sense of oppression, nausea, &c., all of which symptoms are obviously effects of the same cause. The watery evacuations of diarrhœa, if not dependent upon the same cause, are the consequences of the blood's impeded circulation through the liver ; by reason of which, the veins of the bowels, being engorged with blood, not only cease to absorb, which is their office in ordinary, but on the contrary, exude or pour out the more aqueous parts of their contents. The bilious purging of the intemperate, is produced by one or both of these causes ; the irritation of the bowels is, however, in this case extended along the biliary duct opening into the bowels to the secreting vessels of the liver, which are thus excited to an increased secretion of bile to the relief of the organ and system at large.

Pain or oppreſsion in the region of the stomach or liver, is the necessary consequence of engorgement of the blood-vessels of these organs ; or when of a temporary character, of flatulent distention of the bowels in the vicinity. *Loss of, or depraved appetite*, as necessarily results from the gastric secretion, the solvent of the food, and exciter of the stomach, being diminished or altered in quality.

Secondary Symptoms—or those of the second class, resulting from the circulation of imperfectly assimilated and impure blood— or that abounding with the elements of bile ; we may mention, pain in the head, or giddiness, dejection of spirits, irritability of temper, incapacity to any exertion, as its direct effects upon the brain.

But to proceed without further particularizing : the sallowness of countenance, the feverish, restless, or sleepless nights ; the heat of the palms of the hands and soles of the feet ; the turbid or high-coloured urine ; the muculent expectoration, or cough ; the foul tongue, the bitter taste in the mouth, and not unfrequently offensive breath ; the itching of the skin, or pimpled face ; the oppression about the heart, and sometimes intermittent pulse ; or, from nervous irritation, the cramps by night, or spasms wherever situated ; or neuralgic pains often simulating rheumatism ; and in gouty subjects from biliary torpor, and the concurrent derangement of the function of the kidneys, the wandering gouty pain, or more decided attack. These are all symptoms of disease having one common origin, and that is—impure blood from liver derangement.

To this long catalogue of secondary symptoms I might add a multitude of others, originating in, or being induced by, the complications resulting from the general derangement of the system in all its functions, the derangement of one function necessarily operating reflectively to disorder that of another. Indeed, were I to give expression to the convictions of my own mind upon this head, I could say much upon the subjects both of consumption and scrofula, as well as upon cancer,—upon which, from the importance of the subject, I cannot forbear hazarding a few observations, and which I shall offer in a future page.

Piles.—Among the symptoms enumerated I have mentioned piles, or those small tumours about the anal aperture of the bowels, from distention of the hæmorrhoidal vessels. These in some cases, bleed freely, and in others form painful excrescences; or tumours in the surrounding parts are formed, from which fistulæ arise. These, no doubt, are the direct effects of retarded circulation or obstruction in the passage of the blood through the liver, by which the blood is thrown back upon the bowels, the veins of which unite with some others to form the hæmorrhoidals, which are distributed over the parts affected, and become thus distended and tumefied in consequence.

Enlargement of the Prostate Gland, and Disease of the Neck of the Bladder.—To the same cause, impeded circulation through the liver, and connected distention of the blood-vessels of the parts affected associated with the hæmorrhoidal vessels, are to be attributed those diseases in the male which are so common after the middle period of life. The early manifestation of these affections are frequent desire to make water, attended often with a sense of heat or scalding in its passage, and with pain in the region of the bladder and parts adjacent; and eventually an inability to expel the urine, or a dribbling from the organ takes place.

Disease of the Womb.—From torpor and obstruction of the liver in females, and engorgement of the vessels about the neck of the womb, which are associated with those of the hæmorrhoidal, the monthly relief becomes profuse or obstructed, or otherwise irregular, as regards time, quantity, or character; and is attended with pain, costiveness, or, on the contrary, relaxed bowels, sickness, &c. In the intervals there is not unfrequently a feeling of bearing down, pain, and perhaps a colourless uterine discharge, associated with hysterical symptoms; and occasionally enlargement of the womb, or ulceration of its neck, or prolapsus follows. Or at a more advanced period of life, when it ceases to be with the female after the manner of the sex, or is about to do so, and the system is not relieved by some other discharge, natural or artificially induced,—then enlarged and not unfrequently malignant disease of the womb, as cancer, takes place, or enlargement of the liver and dropsy, or asthma, or apoplexy and palsy supervene.

Melæna.—After long-continued congestion of the liver in certain conditions of the system, instead of dysentery, diarrhœa, or bilious purging taking place, the patient will sometimes evacuate a large quantity of black, sooty, coffee-grounds looking stuff. The discharged matter, which is sometimes vomited up as well as evacuated by stool, is not a secretion, but an effusion from the congested blood-vessels of the organ. It is, indeed, blood which has lost its vital qualities and is otherwise altered in character by its long retention in the liver. These evacuations evince great oppression and defalcation of the secretive power of the organ, and must be regarded in general in an unfavourable light.

The black, tarry, and spinach-like stools, on the contrary, which are secretions that have been long pent up in the liver or gall-bladder, may, in a general way, be hailed as evincing, when they occur under treatment, that the case is progressing towards amendment, and that mercurials with evacuants are further indicated. In getting rid of such matter we are dislodging the enemy, and with it getting rid of the principal cause of the disease. Whereas the evacuations in melæna often attend a diseased state of the organ, and will in general be followed by dropsy or death.

Chap. V.

Of Inflammation of the Liver, and of the Stomach and Bowels, and its consequences.

In the account of the many and varied forms of affection I have hitherto given, my description has been confined to disordered function of the liver and its consequences, rather than to disease of its structure, but to which I shall now direct attention.

The liver, with its associated organs the stomach and bowels, which of necessity must be no less involved in its disease as well as in its disorder, is liable, not only to become congested with blood, but inflamed also. This is, however, but a consequence of its congestion,—at least in general it is so,—and is thus brought about. The liver, in addition to those vessels derived from the stomach and bowels for its functional purposes, which are venous, is furnished with an artery also, supplying it with heat-producing and more highly endowed blood for the nutrition and maintenance of its structural requirements. Now, as this vessel, in common with arteries elsewhere, terminates in and pours its blood, after it has fulfilled its nutritive and structural offices in the liver, into the veins of the organ; and as these vessels are already engorged or congested with blood, the blood flowing from the ultimate ramifications of the artery—its capillary branches, is necessarily impeded in its passage into the veins, and by consequence of the distention of the capillaries which ensues, they become preternaturally excited, (as they are in all other parts under similar circumstances,) and the condition which is called inflammation, is thus produced.

Inflammation, if allowed to progress, is a process destructive to the organization of the part, wherever it may be situated. It converts the blood of the part affected into pus or the matter of an abscess, as in the case of the liver; or it occasions hardening of the substance of the organ, by the deposition of some of the more solid parts of the blood, in and among the finer vessels of its structure: or, if seated in the bowels, it produces thickening, or ulceration and destruction of their texture, or death of the part by mortification. If inflammation is located in the brain, it occasions softening of its substance.

So, then, I repeat, does inflammation of the liver, produce, in one case, induration or hardening of structure followed by atrophy of the organ, and in another, abscess of the organ, as the circumstances of the case and habits of the individual may determine. I shall say nothing of fatty degeneration of the organ, or of tubercle or cancer, or other malignant disease of the liver, as these are exceptions to the ordinary rule of occurrence, and seldom admit of remedy, and would therefore be quite out of place in a work professing to treat of the functional diseases of the liver only.

Inflammation of the Liver is characterized by the pain in the organ, commensurate with the extent of the inflammation, being more or less acute, and increased on pressure of the part: it is not unfrequently associated with pain also in the shoulder, a short hacking cough, and pain on breathing; heat of skin and febrile disturbance also attend it. As the inflammation may be slight in degree, as well as great in extent, it is often a slow and insidious process, escaping detection,—a sense of uneasiness in the side, being alone complained of, and which is thought perhaps of little or no moment, the organ itself being, as I have previously pointed out, there is good reason to believe, but slightly sensible of pain.

Inflammation of the Stomach and Bowels.—From the same cause, congestive obstruction in the liver, these affections also become not unfrequently developed. The characteristic symptoms of the former are pain in the stomach, more or less of an acute character, increased on pressure over the part, vomiting, and an inability often to retain anything in the stomach, and not unfrequently obstinate costiveness, with desire for cold water attends it.

If the patient is of intemperate habits, or from the conjoint influence of cold upon the system, or other cause, the inflammation may extend down the bowels to the biliary duct, and by the channel of this duct impart irritation and excitement to the secreting vessels of the liver ; when there becomes increased biliary secretion, and the symptoms of *cholera-morbus*, or bilious purging and vomiting ensue. If the stomach, however, is less implicated in the affection, bilious purging only may take place.

Dysentery.—From the same cause, obstruction in the liver to the free passage of blood from the bowels, is it that the lower or large intestines become inflamed, under the circumstance of exposure to cold, or other cause of excitement ; the congestion of the bowels in this case, we may infer, is in a higher degree, than in the former instance. The symptoms are frequent scanty sanguineo-muculent evacuations, attended with straining, and pain across the navel, extending to the anus. During the first day or two, the evacuations are often watery, more copious, less frequent, and without blood or straining, the ordinary symptoms, indeed, of *diarrhœa.*

Of these affections I have given but a brief outline ; it will be sufficient, however, to pourtray the genuine character of the diseases mentioned, and their distinguishing attributes. It will suffice also to connect the whole into one harmonious display of cause and effect, or rather of effects arising out of one common cause,—namely, congestion and retarded circulation in the liver, without entering, which it is not my intention, into the refinements of each particular disease, as it would rather bewilder than edify the generality of my readers.

CHAP. VI.

General Principles of Treatment of the Disorders of the Liver and its associated Organs.

WITH the brevity I have imposed upon myself in the composition of this manual, I fear, that I may have failed in rendering the subject so clear and well understood as I should desire. But if understood, I think it must be obvious to every reader, that the numerous ailments I have described, are one and all of them parts of the same common affection, originating in, or associated with, disorder of the liver. And if so, the general treatment of the whole is in principle the same, which will, however, necessarily require modifying and adapting to each particular case and combination of symptoms. To the general treatment we shall at present confine ourselves.

The first point of importance in the treatment of every case, is to determine what are the causes in operation or occasions of the symptoms now present, and to remove them as far as practicable, together with the effects of those causes, or of any other which may have pre-existed. These intentions will be readily or less easily accomplished, commensurate with the duration and the extent of the disease. The effects of a congested liver, if of long standing, is not at all times immediately to be remedied. The blood-vessels, from continued distention, become weakened and more or less permanently enlarged, and do not, therefore, readily revert to their primitive tone and calibre, although the blood congesting them or the quantity surplus to their primary and healthy condition may have been removed. Or the congestion has developed, in the way previously pointed out, a greater or less degree of inflammation, and perhaps of hardening of the liver's structure, or even of abscess of the organ. If the inflammation is seated in the stomach or bowels, thickening or ulceration of their substance follows. The effects, in these and many other instances, often long survive the cause which has given rise to them. The indications of treatment in general, are, however, clear and well defined, and consist in remedies in the first instance depletive of the liver in some way, and of the restoration of its secretive function.

Now, universal experience testifies, that calomel and some other mercurial preparations, have an immediate and especial influence, such as no other remedy has, in exciting and augmenting the secretion of bile, and its flow into the intestines. And as in proportion to this discharge of bile, which is a secretion from the blood, shall we deplete the vessels of the congested organ, so will some mercurial preparation in this large class of disorders, if judiciously employed, prove our chief and most valuable remedy. But in saying so, let it be distinctly understood, that I protest in the most unqualified way, against the wholesale and indiscriminate manner in which it is too commonly administered. The object I hold in view, in having recourse to it in all this large class of disorders, is to encourage and to gently excite the natural endowments of the organ, not by whip and spur to urge it to efforts incompatible with their maintenance or weakening in their effects. The object of all treatment, I maintain, is to aid and assist Nature, not to alter and disturb, or paralize her functions by excess of excitement and untoward efforts.

A grain of calomel, or its equivalent of blue pill, or a grain and a half, is as much as I ever think it necessary to give at one time, and not unfrequently less; it may be given daily, or oftener, but the frequency of its administration must necessarily bear reference to the circumstances of the case. And the same may be said with regard to other measures depletive and evacuant, which are often conjointly necessary. If there be pain or tenderness in the side, not relieved by the operation of the mercurial aided by some mild form of aperient, the application of a few leeches to the part, or to the anus, which is a more beneficial practice, will be required. Or if the pain and congestion be more considerable, or inflammation has become developed, bleeding of a more general description, as from the arm, or by cupping over the organ, will be essential. The warm, or vapour bath, is often also a valuable auxiliary. And a blister, or its repeated application, in other cases in an essential requirement. The calomel or other mercurial in some constitutions is too exciting, in which case its effects may be very advantageously modified by combining each dose with a quarter or one-third of a grain of opium, or two grains of the extract of henbane. In some cases it is desirable to extend its influence to other of the secretions; as of the skin, which may be done by adding to it half a grain more or less of ipecacuanha, or two grains of antimonial powder; or to the kidneys, when a quarter of a grain of digitalis, or a grain of squill powder may be substituted; or it may be desirable to augment the mucous secretion of the bowels, when some saline or other aperient may be conjoined.

The remedies I have named are few in number, but judiciously employed in doses commensurate with the necessities of the case, constitution, age, &c., &c., conjoined with an improved system of dietics, and attention to air, exercise, &c., they will in general be found to fulfil all the requirements of a successful treatment of liver disease. It is not in a multitude of remedies, but in a clear conception of the nature of the disease, from which success in its treatment must be expected. Many other remedies, no doubt, may occasionally be resorted to with advantage, and are obviously called for in the treatment of the numerous secondary affections the disease of the liver has given rise to, but which it is not necessary that I should mention here.

CHAP. VII.

Of the Treatment of Dyspepsia, and of the numerous disorders of the Stomach, Bowels, Bladder, Womb, &c., with which it is so often associated.

Dyspepsia.—Entering now more into detail, as regards the treatment of each particular group of symptoms or form of disease, I must first observe of dyspepsia, or that group implicating the disorder of the stomach and bowels more particularly; that the primary indication is to remove every cause of irritation from these organs by evacuation, and this is best done by exciting an increased flow of bile into the bowels, by taking a pill, composed of one grain of calomel with the same quantity of prepared aloes and castile soap every night or night and morning, till a full effect is produced; and after this is accomplished, repeating a pill every night, or second or third night, till the evacuations are of healthy colour and appearance.

If sickness of stomach is complained of, or much depression is experienced, the pills may with great advantage be preceded by a gentle emetic. Half an ounce of ipecacuanha, or antimonial wine, either, will in general operate effectively; if not, the dose may be repeated half an hour afterwards.

And here I must observe, that there is much more done by an emetic than simply evacuating the stomach. It produces a copious flow of mucus into the stomach and bowels, and also from the membranes of the air passages; and its operation is attended with a compression of the liver, and the evacuation of the gall-bladder. Its influence is extended to the circulation in the brain also, and it gives a general impulse to the system. That it is a remedy, however antiquated and out of fashion in the present day, of great value, not only in this particular form of affection, but in the whole class of liver complaints. And as a simple remedy may be often repeated with advantage. The pill of calomel and aloes, will in general be found to produce two or three evacuations; should it fail in producing two, it may be necessary to take one and a half, or some simple aperient may be conjoined, as a sedlitz powder or a tea-spoonful of epsom-salts on the following morning. Or instead of the pill of calomel, five grains of blue-pill may be taken every other night, and half an ounce of senna tea, with double the quantity of the infusion of gentian may be taken twice a day.

Conjoined with the use of the pills, the diet must be light or rather abstinent, but not of too sloppy a character. The dictates of nature should in all cases be respected, without appetite is experienced, food will rarely be digested, or at best but imperfectly so, and the less taken therefore perhaps the better; what is taken should at all times be well masticated. In a general way, must not only beer and spirits, but wine also be refrained from, or be very sparingly taken. A freedom from care and anxiety must also be sedulously observed, as well as the avoidance of too much mental employ and sensual indulgence. Early hours, and a sufficiency of sleep are also essential. And last, though not least in importance, is exercise in the open air; to be out nearly all day, and to walk daily till the skin is sensibly perspirable, are admirable auxiliaries. If the nights are restless, it will be well to sponge the whole surface of the body and the head so likewise with warm water on going to bed. When the health has so much improved, that it is no longer necessary to continue the use of the pills, sponging the skin with cold water every morning on rising, and rubbing it well after with a rough towel, will prove the best tonic, and remedy also for constipation.

If the stomach and system is feeble, and the patient incapable of taking the exercise required, the following mild tonic and gentle excitant will often prove a very auxiliary to the pills, which should be taken as before directed every second or third night. Three or four grains of the sesquicarbonate of ammonia, dissolved in two ounces of the decoction of cascarilla, and taken two hours after breakfast, and repeated six hours afterwards. Or with young females a desert spoonful of steel-wine may be substituted, or alternately taken with the above draught. With persons of a gouty habit, or others whose urine is loaded with deposit, the following powder taken twice a day in a wine-glassful of water, or dandelion-tea will be found preferable. Twenty grains of bicarbonate of soda, with ten of calumba powder, and five grains of both rhubarb and ginger powder.

If in addition to the more ordinary symptoms of dyspepsia, there be pain in the region of the stomach or liver, or vomiting after meals, and the nights are feverish, a dozen leeches should be applied over the part. And these it will be necessary to repeat, if the symptoms continue unrelieved by the pills, as they unequivocally manifest inflammation in the part, or an amount of congestion bordering upon it. In all such cases, however great the apparent weakness, no excitant or tonic is admissable, until every symptom of inflammation has been removed.

Inflammation.—In all cases in which there is continued pain in the region of the liver, increased by making a deep inspiration, or upon external pressure, with thirst and feverish nights, or in which symptoms of inflammation are still more unequivocal, it is beneficial, after the bowels have been freely relieved by the pills of calomel, conjoined with a table-spoonful of castor-oil, to combine the calomel with opium or henbane, as I have previously pointed out, and to continue it night and morning, till the gums become tender. The bowels at the same time, should assistance be required, may be relieved occasionally with a table-spoonful of castor-oil, or a sedlitz powder. In addition to these means, a mustard plaster may be applied daily over the part affected; or a blister may be necessary, or the ointment of the tartrate of antimony may be rubbed in over the part, till a pockey eruption is induced, which is occasionally of much benefit.

More active inflammation, will of course require more energetic means of relief, when bleeding from the arm, or by cupping over the part affected, will be necessary, and the pills in this case should be taken more frequently. But this subject I shall not pursue further, though by way of commentary, I must add, let no one, who would enjoy health, or desire to maintain existence, be indifferent to the continuance of even a *little* pain in the side, or of pain in any organ; how many have I seen fall victims to the neglect of such, too commonly considered unimportant, admonitions of nature.

Spasmodic or nervous pain.—In addition, however, to the pain attending inflammation, there is a nervous pain of the stomach, spasmodic and intermittent, to which young females are more particularly liable, though it is not confined to them, and especially so at a certain period of the month, and often connected more or less with hysterical symptoms. These are obviously symptoms quite of an opposite character to those I have already described of inflammation, and in which the draughts of cascarilla and ammonia, or the powders of calumba and soda, are the appropriate remedies, conjoined with an occasional pill of calomel and aloes—or their more frequent use, if there be obstruction of the monthly relief. The addition of five grains of the trisnitrate of bismuth to each of the powders of calumba is often too, an admirable combination, or a minute dose of strichnine.

Diarrhœa, or relaxation of the bowels.—If either of these be present, the pills of calomel, in combination with opium and ipecacuanha, as I have before advised, both night and morning, may be necessary, or oftener in some cases, and great advantage is often derived by preceding their use by an emetic.

Of Piles.—The small painful, and often bleeding tumours around the verge of the anus, bespeak but too clearly the congested state of the bloodvessels of the bowels and liver; the bleeding being in reality not a disease, but a curative effort of the system in relief of these vessels, and as such, points out to us the most proper remedy—

namely, freely leeching the part. With this view, eight or a dozen leeches should be applied round the anus, and as near the aperture of the bowels as possible ; and when they drop off from the part a warm bread poultice should be applied, and renewed four hours after to prevent the irritation of the leech-bites. In furtherance of the same intentions, and of removing obstruction to the blood's free circulation through the liver, a pill of calomel and aloes should be taken every second or third night, or the blue-pill and senna-draughts, till relief is obtained ; and afterwards, a pill be occasionally taken in prevention of the return of the piles. The leeches it may be necessary to repeat more than once, if there be pain or tumescence in the surrounding parts, which are often the precursors of abscess and fistula, which may be thus prevented.

Enlargement of the prostate gland, with pain in the perineum or part in front of the anal aperture, or about the neck of the bladder, with frequent urgency to make water, and feeling perhaps of scalding in passing it. These are symptoms of the same affection—congestion and inflammation of the neck of the bladder, are dependent upon the same cause, and are produced in a similar way to piles. And if so, they are to be treated necessarily by the same means, namely, by applying a sufficient number of leeches to the perineum, and repeating them until every vestige of inflammation, and other symptom is relieved; taking also a pill of calomel and aloes every night, with the intentions previously adverted to, or the blue pill and senna draughts if preferred. The continued application of a poultice to the part, or applying hot fomentations night and morning, will be useful also. Or the immersion of the whole body in a warm bath for half an hour daily, if the symptoms are urgent, will be an admirable auxiliary. When the symptoms are effectually relieved, using the cold-biddet every morning in prevention of their return, and the same applies also to piles, is to be recommended.

The derangements of the uterine function in the female; the periods of relief being irregular, the discharge being suppressed, or scanty, or in excess, or attended with pain, and a muculent discharge occurring during the intervals. These are all symptoms analagous in character with those of the affection of the bladder in the male, and with which, in a limited degree, they are sometimes also associated. The same general principles of treatment are applicable to both cases—that is, exciting the secretive function of the liver, and relieving the congested organs by leeching; in addition to such measures of treatment which may be necessary, in relief of the attendant dyspeptic and hysterical symptoms which may be present.

And the same holds good with all the derangements of health to which the sex is so liable, when they attain to that period of life when it ceases to be with them as formerly. The periodical relief to which the system has been so long accustomed, no longer existing, the sanguiferous system to a greater or less degree, must become engorged ; and hence it is, that women so often become fat at this period, nature relieving the system in this way by its deposition. But when the relief in this way, or by some other means, natural or artificial, is not equal to the necessities of the case, the liver necessarily becomes congested, and its secretion suppressed, when its enlargement may take place, or slow inflammation of the organ, or others in connexion with it, may become developed, and dropsy ensue. Or the lungs may become engorged, and asthma take place ; or the brain may become congested, and apoplexy or palsy supervene ; or insanity, where there is a predisposition to it, at this period take place. These diseases, for the most part, although so diversified in name, are evidently in character the same—that is to say—congestive, and to be treated therefore upon the same general principles, viz., by giving relief to the oppressed circulation, and restoring excitement to the liver, by the means, commensurate with the necessities and circumstances of each particular case that I have already enumerated.

Especial attention to diet, air, exercise, and the like agents, at the same time being observed.

Dysentery, Cholera Morbus, and Inflammation of the Liver.—With respect to the treatment of these diseases, I shall briefly observe—that these maladies are in all their essential characters alike, links, as it were, in one unbroken chain of effects, though modified in character by the organ more especially affected, and circumstances under which the disease has arisen. Congestion of the liver and bowels, with inflammation in a greater or less degree of development, are the essential characteristics of each ; and the primary object to be held in view in the treatment of all of them. I shall not enter further into the subject, as it is foreign to the purpose I hold in view in this treatise, which I would limit to the functional disorders of the liver, in contra-distinction to the diseases of its structure—as abscess, induration, &c., or of ulceration and mortification of the bowels, which so frequently succeed to inflammation of these organs, and with which these diseases are so often associated. But with respect to which, I must refer those who desire further information, to my work on the "Philosophy of Life, Health, and Disease."

CHAP. VIII.

Of the Affections of the Heart, Brain, Lungs, and Nervous system secondary to those of the Liver.

THE symptoms of the second class,—or those attending the secondary derangements of the heart, brain, and system in general, and which originate in, or are more particularly dependent upon, the circulation of impure blood, or that which by torpor and derangement of the function of the liver, is but imperfectly purified and assimilated; it is obvious, in general, if not of too long duration, the majority of them will cease, when the cause is removed. The biliary function, that is to say, is renewed, and the blood is restored to its healthy condition. But the symptoms do not always cease—the effect in such cases survives its cause, as structural disease but too commonly succeeds functional disorder; and when this occurs, effects are produced which are not always immediately to be remedied.

Bronchitis of a sub-acute character, or of the chronic kind, is an affection not unfrequently dependent on defective biliary secretion, the blood contaminated by the admixture of the effete elements of the bile, excites irritation in the mucous lining of the bronchi, or air tubes in connexion with the wind-pipe, and there is in consequence cough, especially on rising of a morning, though often continued through the day, with mucous expectoration. This affection is sometimes limited to the upper or laryngeal part of the wind-pipe, and is occasionally of a croupy character. An affection of this sort, associated with dyspeptic symptoms, frequently succeeds to an attack of influenza, and from which the patient may long suffer without the nature of the complaint is duly appreciated. A pill of calomel and aloes every night, or every second night, till the evacuations are of a healthy character, and the blood is well purified, may in the milder forms of this affection be all that is required. But in severer affections of the kind, a pill of calomel, with opium and ipecacuanha combined, once or twice in the twenty-four hours, may be necessary. And a blister applied to the upper part of the chest, or leeches, may be conjointly required.

Asthma is an affection of the lungs of three-fold character. It consists partly of irritation, developed by the agency of impure blood on the nervous centres influencing the lungs; partly of chronic bronchitis, developed by the agency of the same cause, operating on the mucous membrane of the lungs; and partly of pulmonary engorgement, as a consequence of the blood's enfeebled circulation through the lungs. Relief of the spasmodic attack when present will first claim attention. In some cases relief is most speedily afforded by smoking a pipe of stramonium. In France bleeding is the general practice, and in moderation it may often be usefully employed. These means should be followed by the application of a large mustard-plaster to the chest, a large dose of ether, or an active emetic; and these, by the pills of calomel with opium and ipecacuanha every three or four hours, till relief is perfected. After the attack, and at all times, our attention should be directed to the biliary organs, and to the equalization of the circulation. To adapt the quantity of blood to be circulated, to the power of the heart to circulate it, and to remove the congestion of blood from the liver and lungs by appropriate depletion; and improve the quality and condition of the blood by its purification. At the same time, we should endeavour to add vigour to the heart and system in general, by attention to air, exercise, diet, the use of the cold or tepid bath, &c., &c. We have the testimony of Drs. Thornton, Beddoes, and some others, of the great advantage to be derived in cases of asthma from the inhalation of oxygen gas. A remedy, which is applied immediately to the lungs, and which our views of the nature and causes often simultaneously deranged, and hence the gouty and rheumatic pains of the heart and its envelopes, which are so frequent, the extract of dandelion, soda, hydriodate of potass, sarsaparilla, and the warm bath, or a blister, may often be usefully conjoined. And sometimes sedatives, as the hydrocianic acid, extract of henbane, or opium, may be required ; and the same may be said of the preparations of iron and other tonics : the employment of which must necessarily bear reference to the particular circumstances of the case, and exigencies of the system.

Neuralgic Pains, tic-doloreux, sciatica, pains simulating rheumatism, head-ache, cramp, spasm, &c.—These various affections, which are essentially of a nervous character, although associated with biliary derangement, are seldom exclusively dependent upon it. The primitive cause of these affections is often malaria, the respiration of which impure and poisonous air contaminating the blood, not only depresses the circulating power of the heart, and developes biliary derangement, but it does more, its depressing influence is simultaneously extended to the brain and nervous centres, in which it also developes congestion and irritation: and thus are the symptoms enumerated, which are all of a nervous character, but modified by the circumstances of the case produced. The disease thus induced, is in general, therefore, of a two-fold character. In the treatment of which, attention in the first instance is to be paid to the derangements of the liver, and associated organs, upon the principles already inculcated. And when the liver has been brought into healthy action, and the blood is purified by its agency, we should have recourse to the sulphate of quinine, or other of its preparations, which when administered to a certain extent, universal experience testifies, has some specific influence in neutralizing or superseding the influence of, or the effects produced by, malaria. The quinine should be given with these views, in doses of two grains of the sulphate, twice, three times, or oftener in the day, commensurate with the necessities of the case. The effects however of malaria or of the disease when of lengthened duration, too frequently survive their cause ; in such case the quinine may not prove effective, when the carbonate of iron, in doses of half a drachm or more, three or four times a day, is often found a most valuable remedy. A vapour-bath every second or third day will often prove a valuable auxiliary ; and sedatives are occasionally necessary, and so likewise are leeches and blisters locally applied.

If the pain is of a gouty migrating character rather than nervous, and does not give way after attention has been duly paid to the secretions of the liver, colchicum, which has a corrective influence in some way on the secretive function of the kidneys, which in these cases is simultaneously deranged, will often prove a most satisfactory remedy. Thirty drops of the tincture, or the same quantity of the wine of colchicum in a wine-glassful of water, may be taken night and morning: and the powders of soda and calumba prescribed in the treatment of dyspepsia, will in general be found to fulfil all that may be further required. Or if they do not, some complication of the disease most probably exists, which require the use of the quinine, or probably the very opposite class of remedies, as bleeding and evacuants; but the subject is of too extended a nature to admit of my pursuing it further on the present occasion.

A few Observations on the Cause and Cure of Cancer, in reference more particularly to a case published by Dr. Engledue, denominated, " The Cure of a True Cancer of the Female Breast with Mesmerism, by DR. ELLIOTSON."

The subject of cancer is one of so much importance, and the announcement that this disease, which is so generally considered irremediable, is to be cured by mesmerism, is really so surprising, and in my opinion so objectionable in character, as leading not only to false hopes, but to the neglect of measures which afford grounds, so much more reasonable of success, that I cannot forbear noticing them here.

Dr. Elliotson observes :—" This case is *one* of the most splendid triumphs of mesmerism, and *is* the most splendid hitherto accomplished under my own hands. The disease was malignant and structural, and such as the art of medicine has never been known to cure, nor the powers of nature to shake off." The case is thus described. " On the 6th March, 1843, a very respectable looking unmarried person, of middle age, fair slender, and delicate, with the *sallow complexion of cancer*, called to solicit my advice respecting a disease of her right breast. I found an intensely *hard* tumour in the centre of the breast, circumscribed, moveable, and apparently about five or six inches in circumference ; the part was drawn in and puckered, and upon it, to the outer side of the nipple, was a dry, rough, warty-looking substance, of a dirty brown and greenish colour. She complained of great tenderness in the tumour and the arm-pit when I applied my fingers, and said, that she had sharp stabbing pains through the tumour during the day, and was continually awakened by them in the night. I at once saw that it was a decided cancer in the stage termed scirrhus." Dr. Elliotson goes on to say, that on enquiry, he found the disease had been gradually developing itself, from the date of its first appearance, a period of about sixteen months, and that, " her complexion and hands had grown *sallow* for many months."

Evidence of the most satisfactory character is next adduced, to prove that it was a case of genuine cancer ; and testimony equally satisfactory is advanced five years afterwards, to prove that the cancerous tumour had disappeared, and that the patient had been restored to health. But, to represent that the disease was cured by mesmerism or the passes of the hand over the part, as practised by Dr. Elliotson, and mesmerists in general, is to me truly marvellous. Seeing that, during the period the patient was under this treatment, it is mentioned, though but incidentally, as of no importance—so blind are men when under some favourite delusion,—that the patient suffered by four several attacks of inflammation of the lungs and pleura; and which, with one exception, are all distinctly represented to have been successfully treated by bleeding and blistering; and as the exhibition of calomel to the extent of four doses is also mentioned in the treatment of the first case, it is fair to conclude, as this forms a part of the ordinary treatment of such cases, that it was employed in the treatment of the others also. Surely no person but a mesmerist could have failed to perceive, that in a disease purely of the blood, like cancer, thus withdrawing a quantity of the diseased blood, and in no sparing way, as it is mentioned that the patient was in the first instance bled to faintness, and drawing off some of the corrupted humours by blistering, and exciting at the same time the liver and purifying organs of the body by calomel, must have had something to do with the patient's recovery! And further, if in possession of a small amount of medical knowledge, such a person could not fail to notice, that these were the appropriate remedies for a painful tumour, whether seated in the breast or elsewhere. And he might further be disposed to concur with me in opinion, that these were the only really efficient means pursued on the occasion. Although he might not agree with me as the patient's hands and complexion had become *sallow* for some months before the attack,—(at least I infer so, seeing that it is mentioned that these symptoms, of a disordered liver, had existed for *many* *months,*) that these symptoms might stand, by virtue of the impurity of the blood which would ensue as a consequence of such disorder of the liver, in the character of a cause of the cancerous affection which subsequently occurred; or if not its cause absolutely, be otherwise intimately associated with its occurrence. With no intention, however, of pressing this point, let me return to the treatment; with reference to which, accident having led me some days ago to look into an old book, written by the most celebrated surgeon of his day, Cheselden, more than a hundred years ago, the following passages presented themselves to me strikingly illustrative of the views I have enunciated on the subject of the disease, and corroborative of the advantage of bleeding and the treatment incidentally pursued in this case. Cheselden says, "Where we cannot extirpate, we find the best remedy for cancer is plentiful bleeding, constant gentle evacuation by stool, and a vegetable diet." He mentions also the case of a patient with a cancerous breast, who having been unintentionally salivated by a mercurial application, "Contrary to all expectation," he says, "the cancerous sore healed, and the patient lived for many years after in the enjoyment of health." Now, with respect to extirpation, the experience of Sir Astley Cooper has, I believe, set this question at rest. The disease had, in all cases in which he had the opportunity of noticing the final result of an operation, returned, if not in the original situation, in some other of the structures of the body. Proving incontestably, if any proof was required, that the disease is one purely of the blood. That the blood, the fountain stream of life, was polluted with the germ or material of the cancerous growth or degeneration of the part affected. Let this be acknowledged, and what I have previously advanced in this work as to the cause of the blood's impurity, and changes which must take place in its composition in consequence of the successive derangement of the functions of all the secretive and excretive organs, be admitted, and we may readily understand how the nutrition of a part may be altered, and cancerous induration and degeneration of such part take place. And, further, we cannot fail to perceive how, under other circumstances, scrofula, which, like cancer, is a disease more particularly affecting glandular parts, and is allied to it in many other of its characters, may take place. Or, under other circumstances, consumption, which is characterized by the deposition of tuberculous matter in the lungs more particularly, (but not confined to these organs,) and is considered by many as only another form of scrofula; as well as other malignant diseases and affections of the skin, however diversified in character they may appear, may all take place under the varied circumstances influencing the result, to which individuals are severally exposed: as parentally acquired impure blood, unwholesome diet or beverage, impure air, *medicinal poisons*, constitutional predisposition, age, sex, and the numerous et ceteras influencing the system for good and for evil.

But to return to cancer. If not always to be cured by the means employed in accordance with these views of the disease, its unfortunate sufferers are not to be condemned to the tender mercies of the charlatan, who may profess to cure the disease by poisoning him with arsenic or aconite; nor to the frivolity of the mesmerist, who, if he do not kill the patient by poison, allows the disease to run its destructive career under the delusive hope of success in a treatment in which there can be no hope, to the neglect of those timely and more rational means, which every person of common sense cannot by this time fail to perceive, consists, in divesting the blood of its cancerous impurities, and altering and improving its condition, and that of the general health.

And now with respect to the measures to be pursued to accomplish these ends, the first I should propose is blood-letting, as the most direct and efficient in its character. Cheselden says, the best remedy is plentiful bleeding. This should be accomplished by taking at regular intervals as much blood as the constitutional powers of the individual would admit of. And as absorption takes place just in the inverse proportion to the distention of the blood-vessels, reducing the distention of them occasionally, must prove one of the most direct means of producing absorption of the cancerous deposition; and it must further favour the absorption of a greater amount of sustenance and new matters from the bowels in support of the system. With the same intention, and with a view also of running off some of the bad humours of the system, would be the insertion of an issue or seton into the vicinity of the local affection;—to which bland and soothing applications I should deem the most appropriate. The next purpose to be fulfilled is to excite the liver and other secretive purifying organs of the body, by the judicious exhibition of calomel or other preparation of mercury, (Cheselden says a patient was cured by salivation,) combined with aperients, and the conjoint use of the decoction of sarsaparilla, dandelion tea, or other vegetable diet drink, which increases the secretions of the skin and kidneys; with the addition occasionally of the hydriodate of potass or other alkali, which are supposed to thin the blood and increase absorption. In addition to these means, the hot air or vapour bath may very properly be recommended. And I am further of opinion we have another agent of great importance in these cases, and which I believe has never yet been employed, I mean oxygen gas or vital air. The inhalation, not of a few quarts, but of some gallons daily, I cannot help thinking, whilst it could not by any possibility do harm, might prove of great benefit. Oxygen is the great agent of combustion and disintegration of all bodies, nothing can withstand its influence in the outward world, and its influence in the animal body, as the source of its heat and vitality, when respired by the lungs, renders it obvious that it is an agent of vast power and importance. And if the quantity received into the system was augmented in amount by the daily inhalation of some gallons of the pure gas, it might burn out, disintegrate, or decompose, or otherwise alter the baneful qualities of the blood, and improve its vital condition. And thus, I am of opinion, it might materially benefit the patient, and especially those persons who cannot take the requisite amount of air and exercise, which, upon the same principles, ought to form a material item in the treatment ; as well as great attention to diet, which should be chiefly of milk, and, as Cheselden says, of vegetables. And lastly, I may observe. that a systematic and judicious adoption of these measures, with reference to the circumstances of the case and constitution of the patient, and of every other expedient which may tend to alter and amend the qualities of the blood and improve the general health, could not fail to relieve pain and prolong life, if they did not absolutely cure the disease, but which in many cases, when practiced at an early period of the affection, they might reasonably be expected to accomplish.

FINIS.